

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,036	12/05/2001	Robert C. Newman JR.	P/10-584	9569

2352 7590 12/04/2002

OSTROLENK FABER GERB & SOFFEN  
1180 AVENUE OF THE AMERICAS  
NEW YORK, NY 100368403

EXAMINER

A, MINH D

ART UNIT PAPER NUMBER

2821

DATE MAILED: 12/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/006,036

Applicant(s)

NEWMAN ET AL.

Examiner

Minh D A

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-12, 14-21, 25, 28-42 and 47-52 is/are allowed.
- 6) ☒ Claim(s) 13, 24, 43, 44 and 53-55 is/are rejected.
- 7) ☒ Claim(s) 22, 23, 26, 27 and 56 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

**Specification**

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. **It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited.** The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

**Claim Rejections - 35 USC § 102**

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 13, 43, 44 and 53 are rejected under 35 U.S.C. 102(b) as being unpatentable by Chen et al (US 5,363,020).

Regarding claim 13, Chen discloses the electric power controller for driving at least one gas discharge lamp (10) from a source of AC power (14) which has a substantially terminals; the input terminals of the valley fill circuit (power factor controller

Art Unit: 2821

(27)) connected to the DC output terminals of rectifying circuit (70). See figure 1, col.5, lines 44-68 and col.6, lines 1-38.

Regarding claim 43, Chen discloses the electronic ballast comprising the steps of.

a) rectifier (23) for rectifying the substantially sinusoidal line voltage from said source of AC power (14) to provide a rectified voltage;

b) power factor controller for inverting the rectified voltage in an inverter circuit (32) to provide a lamp current to drive the at least one gas discharge lamp (10);

and c) Feedback signal processor for applying a charging current to the energy storage capacitor of the valley fill circuit (power factor controller) solely from a winding in the inverter circuit to charge the energy storage capacitor to a predetermined voltage level. See figures 1 and 2, col.5, lines 44-68 and col.6, lines 1-68 and col.7, lines 1-45.

Regarding claim 44, Chen discloses the electronic ballast comprises rectified voltage (23). See figure 1.

Regarding claim 53, Chen discloses the electronic ballast for driving at least one gas discharge lamp 910) from a source of AC power (14) which has a substantially sinusoidal line voltage at a given line frequency, comprising: the rectifying circuit (23) having AC input terminals and DC output terminals, AC input terminals connectable to the source of AC power, the rectifying circuit (23) producing a rectified output voltage at its said DC output terminals when said AC input terminals are energized by the source of AC power; an inverter circuit( power factor controller (27)) comprising a single controllably conductive device having input terminals connected to the output terminals

Art Unit: 2821

of the rectifying circuit; wherein the electronic ballast input current in-rush is inherently limited by the operation of the single controllably conductive device. See figure 1, col.5, lines 44-68 and col.6, lines 1-38.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 24, 54-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al (US 5,363,020).

Regarding claims 24, Chen discloses the claimed invention except for the electronic ballast does not include a boost converter circuit. It would have been an obvious matter of design choice to have not include a boost converter circuit, since applicant has not disclosed that not include a boost converter circuit solve any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the electronic ballast does not include a boost converter circuit.

Regarding claims 54 and 55, Chen discloses the claimed invention except for input current in-rush is less than about 7 amperes or 3 amperes. It would have been an obvious matter of design choice to have the input current in-rush is less than about 7

amperes or 3 amperes, since applicant has not disclosed that the 7 or 3 amperes solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with input current in-rush is less than about 7 amperes or 3 amperes.

***Allowable Subject Matter***

6. Claims 22-23, 26-27 and 56 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not teach the electronic ballast circuit includes the cat ear circuit being adapted to conduct current for a first relatively short time following a first zero crossing of said line voltage and for a second relatively short time prior to a next zero crossing of said line voltage in combination with all limitations recited in claims 22 and 23.

The prior art does not teach that, when conduction is enabled being reduced during a time around a time of a peak of an absolute value of the substantially sinusoidal line voltage whereby the current crest factor of the lamp current is reduced from that which would have occurred in the absence of the reduction of the controllable lengths of time when conduction is enabled in combination with all limitations in claim 26.

The prior art does not teach the electronic ballast input current in-rush is limited by providing in the inverter circuit an inductance coupled across the input terminals of the inverter circuit, the inductance including a tap, the tap coupled to charge a primary energy storage capacitor of the electronic ballast in claim 56.

7. Claims 1-12, 14-21, 25, 28-42, 45-52 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art does not teach or fairly suggest that, the source of AC or the ballast circuit has a total harmonic distortion below about 33 % in combination with all limitations recited in claims 1,2,14,16, 40 and 49.

The prior art does not teach and suggest that, the voltage on the first winding is limited to the voltage at the input terminals of the inverter circuit during a non-conductive state of the single controllably conductive device or the clamp winding coupled to the energy storage device to recharge the storage device in combination with all limitations recited in claims 8 and 12.

The prior art does not teach or fairly suggest that, the device is non-conducting by diverting a portion of the energy stored in the inductor in combination with all limitation recited in claims 45 and 47.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."



**Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Konopka. (US 5,869,937); Cuk et al.(US 5,416,387); Qostvgels et al (US 6,452,343) are cited to show the ballast circuit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Minh A whose telephone number is (703) 605-4247. The examiner can normally be reached on M-F (7:30 –4:30 PM).

If attempts to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Don Wong, can be reached on (703) 308-4856. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and (703) 872-9319 for final communications.

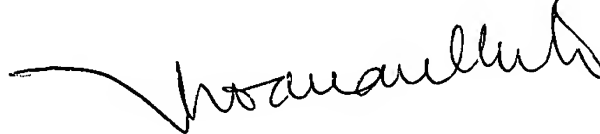
Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (703) 308-0956.

Examiner

Minh A

Art unit 2821

11/28/02



Hoanganh Le  
Primary Examiner